

## TRAINING TEACHERS TO USE AND PRODUCE OPEN EDUCATIONAL RESOURCES: A WIN-WIN APPROACH

By

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### ABSTRACT

*High-quality teaching occurs when teachers come to the classroom with a certain toolkit of knowledge and skills because they are required to perform different roles in changing times, e.g., they have to be continuous learners, promoters of new learning outcomes, users of ICT in formal learning situations, and developers of new learning tools/materials. Present generation of teachers can not afford to be isolated practitioners working within a single classroom as they are expected to play significant role for the cause of knowledge society and be beneficiary as well contributor in ever changing world of education. The situation demands that institutions must prepare teachers to excel in teaching profession, and Open Educational Resources (OER) can play a very significant role to support this cause. OER can support teachers to develop a number of competencies and practices for benefit of teaching and learning. In other side, teachers have enough potential to support open source movement by producing useful and need based OER. To make this happen, efforts are needed to help teachers to understand and realize the importance of OER and to train them to use and produce OER. In this backdrop, present paper mainly discusses about the need of making teachers competent to use and produce OER, possibilities of making OER training an integral part of the pre-service/ in-service teacher training programmes, and responsibilities of various stakeholders to fulfill this promise. As follow-up of this discussion, paper presents an 'OER Teacher Training Module' for use of teacher training institutions/organizations.*

*Keywords: Open Educational Resources, OER, OER for Teaching, Teachers, OER and Teachers, OER Sustainability.*

### INTRODUCTION

The success of any plan for improving educational outcomes depends on the teachers who carry it in classroom situations. Present generation of teachers are expected to contribute significantly for the cause of knowledge society and be beneficiary as well contributor in ever changing world of education. To make things better, teachers are supposed to perform different roles in changing times, for example, they have to be continuous learners, promoters of new learning outcomes, proficient users of networks and tools offered by technologies, developers of new learning tools, and producers of useful instructional materials. The on-going technology supported teaching learning initiatives help teachers to achieve these as well many other objectives like increasing their capacity to teach and learn; providing opportunities to enhance their articulation between theory and practice; helping them to become reflective practitioners; enriching their classroom practices; supporting their professional

development needs; and most importantly helping them to collaborate to breathe in (take) and breathe out (give) their knowledge and experiences.

Open Educational Resources (OER) is one such technology supported initiative that offers these as well a number of other opportunities and benefits for teachers. The term Open Educational Resources was officially introduced first time in 2002 at a forum on the impact of open courseware for higher education in developing countries (UNESCO, 2002). Since then, OER have been recognized as educational materials and resources that are shared openly and freely for all to use. OER was perceived as a means of sharing unique and interesting resources potentially of value to others who would not otherwise have access to them (Johnstone, 2005). OER apply the principles of openness -particularly the freedoms of use, modification and redistribution of digital materials for teaching, learning, and research. Generally, OER refers to accumulated digital assets that can be adjusted and

provide benefits without restricting the possibilities for others to enjoy them (OECD, 2007). In fact, OER presents a number of useful and innovative opportunities for teaching learning process.

## OER: Contexts, Objectives and Potentialities

The OER movement is based on the philosophy that creation of content must be primarily aimed for welfare and use of people without any commercial restrictions. Clarifying about the intention of OER movement, OECD (2007, p.4) points out, "Until recently, much of the learning materials were locked up behind passwords within proprietary systems, unreachable for outsiders. The Open Educational Resource (OER) movement aims to break down such barriers and to encourage and enable freely sharing content." Regarding OER movement, a report of William and Flora Hewlett Foundation suggests, "At the heart of the movement toward Open Educational Resources is the simple and powerful idea that the world's knowledge is a public good and that technology in general and the Worldwide Web in particular provide an extraordinary opportunity for everyone to share, use, and re-use knowledge. OER are the parts of that knowledge that comprise the fundamental components of education-content and tools for teaching, learning and research" (Atkins, Seely and Hammond, 2007, p.5).

In other side, debates about definition, range and diversity of the OER are still on in different parts of world and at different forums. For example, in an internet discussion forum about Open Educational Resources, it was observed that resources are not limited to content but comprise, "Three major areas of activity: the creation of open source software and development tools, the creation and provision of open course content, and the development of standards and licensing tools" (UNESCO, IIEP and Albright, 2005, p.1). Elaborating further, Atkins, Seely and Hammond (2007, p.4) observe, "OER are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge."

According to Geser (2012, p.12), "OER are understood to comprise content for teaching and learning, software-based tools and services, and licenses that allow for open development and re-use of content, tools and services." Whereas, 2012 Paris OER declaration defines OER as, "Teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions" (UNESCO, 2012, p.1). The importance of OER stems from the fact that these resources are seen as fundamental to the knowledge society and economy. Therefore it is essential that teachers and students become proficient with digital tools and services and make them aware about various content licenses (Geser, 2012). In backdrop of these observations and discussions, one can say that OER mainly encompass.

- *Learning Resources:* Full courses, course materials, content modules, learning objects, collections and journals, learner-support and assessment tools, resources to assure the quality of education and educational practices.
- *Tools:* Software to support the creation, delivery, use and improvement of open learning content including searching and organization of content, content and learning management systems, content development tools.
- *Resources to Support Teachers:* Tools and materials for teachers to enable them to create, adapt, and use OER, training materials for teachers, teaching tools for teachers.
- *Licenses:* Intellectual property licenses to promote open publishing of materials, design-principles, localization of content.

OER are slowly becoming an important part of academic world, and there are many reasons behind it, as suggested by White (2008, p.7), "The influence of the open source movement continues to make an impact on education because of the reduced costs of installation and maintenance of a compendium of office productivity applications and access to free content and services specifically dedicated to education." OER play an

important role in teaching and learning and also promote innovation and change in educational practices. OER are seen as a means to help people across the globe to acquire the competences, knowledge and skills needed to participate successfully within the political, economic, social and cultural realms of society (Geser, 2012). These observations clearly indicate that OER do play an important role to promote innovation and change in educational practices and efforts are needed to improve their access and use in teaching learning process.

## Training Teachers to use and Produce OER: A Win-Win Approach

The purpose of using OER in education is to enhance learning, notably a kind of learning that enables the development of both individual and social capabilities for understanding and acting (OECD, 2007). The number of OER is increasing rapidly as noted by OECD (2007, p.12), "With thousands of (open courseware) courses from internationally reputed higher education institutions available for free, teachers will need to consider that students compare their curriculum with others." Although, OER movement is making significant gains in educational processes but much is not known about who is actually producing and using all of the available OER, as observed by Hylén (2009, p.131), "Institution-based initiatives, like the OCW programmes at different universities, use their own staff to produce their material; and some of them, such as MIT, try to continuously evaluate who their users are. But, as a whole, very little is known about the users and producers."

The OER have been produced for educational use, and teachers are primary users of any educational content or resource. Teachers are vital to promote and facilitate the adaptation and use of OER, as observed by Albright (2009, p. 68), "The key component of OER is the educational content, and the essential source is the instructor who provides that content and agrees to make it freely and openly available. Whether OER is driven by 'top-down' institutional systems or 'bottom-up' individual or community initiatives, the creation of the educational substance depends upon faculty members." The teacher's role as a critique of teaching learning materials is increasing day by day. Considering this, teachers emerge as key to provide

acceptable credit and recognition to the OER and ensuring its appropriate use in teaching learning process. In a way, teachers are instrumental to the success of OER movement because they ensure the use of OER for teaching learning tasks.

This is a well known fact that open sharing and collaboration offer real potential for enhancing both teaching and learning. Use of OER for various teaching learning purposes can support teachers in many ways like making their teaching meaningful; accelerating changes in the traditional teaching learning process; and developing a culture of independent study among their students. The OER can also help teachers to teach digital natives in technology dominated world of teaching and learning. In other side, teachers are vital for OER movement. The widening access to OER lies in hands of teachers, as majority of them are expected to use OER for different instructional purposes. Besides, teachers are also supposed to produce need based OER to facilitate teaching and learning. In backdrop of this discussion, we can say that teachers and OER are made for each other. These arguments further lead us to visualize that training of teachers to use and produce OER can be a win-win approach.

Here a question arises that are present generation of teachers' familiar and well versed to use and produce OER. This question emanates from the fact that only a well versed teacher can analyze and recommend useful OER for students. We can assume that only a selected number of teachers are associated with this movement, but this can not be predicted in general. In reality, majority of teachers particularly those who are teaching in face to face mode are not familiar with OER. This assumption is based on the fact that OER is a self supported movement run by individuals with an aim to give rise to new opportunities for learning with the help of ICT. Besides, there is no institutionalized mechanism to promote OER among teaching community. Therefore, efforts are needed to help teachers to understand and realize the importance of OER and to train them to use and produce OER. But empowering teachers as real users and producer is a task that needs lots of efforts at different levels and by different

stakeholders. To make this happen at ground level, a training mechanism is needed to make present and future generation of teachers familiar and skilled to use and produce OER.

## **Making OER Training an Integral Part of the Teacher Training Programmes: Possibilities and Stakeholders**

If we would like to make any technology a success in education, teachers are the first customers who need to know and embrace it. The reason is that only a competent teacher can ensure the effective utilization of emerging technologies like OER in present educational scenario. Making teachers' competent for emerging technologies is a task that requires efforts at different levels, as suggested by Gunter (2001, p.13), "To prepare educators for the twenty-first century, colleges of education must be leaders of change by providing pre-service teachers with a technology-enriched curriculum." Following this advice, present generation of teachers can be converted into a real user and producer of OER by providing compulsory pre-service/in-service training. This training will help in two ways-in one side it will empower teachers to use and produce OER, and in other side it will support OER movement to overcome sustainability challenges.

OER training will offer many benefits for teachers, as suggested by Park (2009) that training will help teachers to learn how to use OER according to its license status, and realize that the commons of open educational resources is vast and global, open to be adapted, derived, and remixed with other OER on the Internet. This training would enable teachers to see open courseware as part of a larger world of open materials and communities, rather than as an institutional initiative. Here we must keep in mind that providing OER training to teachers is not an easy task. The reason is that OER is a people driven initiative and has limited institutional support or backup. The established culture of academic and higher education institutions does not particularly foster the creation, sharing and re-use of OER (Geser, 2007). Therefore, three stakeholders namely-institutions associated with OER movement, teacher education institutions, and teachers themselves are required to come together to smoothen the path of OER training to teachers. The needed initiatives and actions

at the part of all the three stakeholders are as follows

### ***Role of Institutions Associated with OER Movement***

Institutions associated with OER movement are required to play important role for this task. They are expected to guide and advise teacher education institutions and teachers on how to reap the benefits of OER movement for teaching and learning. They are also expected to develop strategies and provide practical guidelines/policies for inclusion of OER in existing teacher education programmes. In sum, these institutions are expected to

- Frame OER inclusive teaching learning tasks for teacher education programmes.
- Support teacher education departments to promote OER mediated teaching learning.
- Organize workshops/training programmes to promote OER.
- Bring educational institutions together to share best practices about OER.
- Promote OER based researches/ studies in teacher education institutions.
- Prepare a resource pool of experts having specialization in OER.

### ***Role of Teacher Education Departments/ Institutions***

The teacher education departments/ institutions are also required to play an important role for this initiative. These departments are mainly expected to empower teachers to innovate and be creative with OER for teaching learning activities; provide supportive measures and networks for learning OER skills and approaches; and propose incentives that encourage teachers to play an active role in using and producing OER. In nutshell, the teacher education departments/ institutions are expected to undertake following responsibilities

- Provide infrastructural facilities for use of OER.
- Motivate and support teachers /teacher educators to use OER for teaching learning tasks.
- Invite experts for providing training to teachers/ teacher educators about OER.
- Organize pre-service/ in-service teacher training programmes on OER at regular intervals.

- Have an environment for OER mediated teaching and learning.
- Collaborate with other educational institutions for promoting OER training among teaching community.

## **Role of Teachers**

The teachers are the focus of proposed initiative. With the help of this initiative, teachers are supposed to mainly learn about OER movement and its genesis; how to use and implement OER tools; how to address safety, security and privacy concerns; and how to produce OER. Teachers are expected to carry out following tasks

- Have updated knowledge about OER and their educational relevance.
- Use available OER for betterment of teaching learning process.
- Attend programmes to learn and update their knowledge and skills about OER.
- Discuss and promote OER mediated teaching learning among peers.
- Produce need based OER.
- Research about educational impact of OER.

## **Proposed Initiative: OER Teacher Training Module**

It is supposed that teacher education institutions must take initiatives to train teachers about OER. To achieve this objective, teacher education institutions will be required to run pre-service and in-service teacher training programmes to train teachers about using and producing OER. Considering this need, the author has developed an 'OER Teacher Training Module' for the use of teacher education departments/institutions. The details of proposed module are as follows

## **Focus**

The focus of this Module is to help teachers to integrate OER usage and production skills. After completing this module, teachers will be able to use and produce OER. Besides, this module will help them to answer some fundamental questions like: what are some similarities in the use of traditional teaching materials and OER? what are the main differences between OER and other online learning materials? why to use OER for teaching learning process?

how to contribute for OER activities, lessons, or resources? etc.

## **Content**

After going through this module, teachers will be able to know about

- *Context and Objectives of OER Movement:* Philosophical and social foundations of OER, History of OER movement, Definitions of open educational resources, Creative Commons.
- *Trends and Challenges of OER Movement:* Users and producers of OER, Drivers and barriers, Sustainability issues, Cost and policies, Technical issues related to accessibility.
- *Use and Benefits of OER:* Goals and benefits of using OER, OER for teaching and learning, Improving access to OER.
- *Production of OER:* OER tools and techniques, Different types of OER licences, Production of open education content, Publishing and disseminating OER for wider circulation.

## **Duration**

The duration of proposed module is 2 weeks.

## **Training Providers**

By offering training through this module, the teacher education institutions will be required to invite OER experts to provide on-line/off-line teaching/training to the teacher educators. These trained teacher educators will act as master trainers and provide OER training to next generation of teachers as per the proposed contents. Beside this training, teacher education departments/ institutions will also be required to depute their teacher educators for a week or two to get training in those educational institutions and organizations that are utilizing OER.

## **Training Methods**

The teaching learning methods like lecture, discussion, field visits, real life examples, case studies, on the hand work experience, etc. will be employed for providing OER training to the teachers under this module.

## **Training Activities**

The teachers will be first taught about theoretical aspects of



OER. After getting theoretical knowledge, they will be assigned practical tasks. During training, it will be mandatory for every trainee teacher to produce one useful OER and use it in classroom conditions.

### Conclusion

Teachers are instrumental for effective utilization of emerging technologies like OER for teaching learning tasks, as suggested by Daanen and Facer (2007), "If educators are to shape the future of education (and not have it shaped for them by external technical developments) it is crucial that we engage with developments in digital technologies at the earliest stages. We need to understand what may be emerging, explore its implications for education, and understand how best we might harness these changes." In present circumstances, teachers are required to find and adapt efficient measures for learning and using emerging technologies like OER, which are bound to grow well beyond what they may envision today. We can hope that adoption of proposed 'OER Teacher Training Module' will help teacher education departments/institutions to produce proficient and skilled teachers to use and produce OER, and these trained teachers will ultimately ensure the maximum benefit of open access movement for individuals and society.

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